

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/321,987B

DATE: 05/01/2001
TIME: 17:53:32

Input Set : A:\Uw953861.app
Output Set: N:\CRF3\05012001\I321987B.raw

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MAY 15 2001

TECH CENTER 1600/2900

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See p.5

3 <110> APPLICANT: Kimble, Judith E
4 Blelloch, Robert H
6 <120> TITLE OF INVENTION: Agent and Method for Modulating Cell Migration
8 <130> FILE REFERENCE: 960296.95386
10 <140> CURRENT APPLICATION NUMBER: 09/321,987B
11 <141> CURRENT FILING DATE: 1999-05-28
13 <150> PRIOR APPLICATION NUMBER: 60/087,170
14 <151> PRIOR FILING DATE: 1998-05-29
16 <150> PRIOR APPLICATION NUMBER: 60/129,023
17 <151> PRIOR FILING DATE: 1999-04-13
19 <160> NUMBER OF SEQ ID NOS: 5
21 <170> SOFTWARE: PatentIn Ver. 2.1
23 <210> SEQ ID NO: 1
24 <211> LENGTH: 6659
25 <212> TYPE: DNA
26 <213> ORGANISM: Caenorhabditis elegans
28 <220> FEATURE:
29 <221> NAME/KEY: CDS
30 <222> LOCATION: (1)..(6450) ✓
32 <400> SEQUENCE: 1
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34 Met Arg Ser Ile Gly Gly Ser Phe His Leu Leu Gln Pro Val Val Ala
35 1 5 10 15
37 gct ctc ata ctc ctc gtc gtc tgc ctc gtt tat gcg ttg caa tca ggg 96
38 Ala Leu Ile Leu Leu Val Val Cys Leu Val Tyr Ala Leu Gln Ser Gly
39 20 25 30
41 agt ggc acg atc tca gaa ttc tca tca gat gtg ctg ttc tcc agg gcc 144
42 Ser Gly Thr Ile Ser Glu Phe Ser Ser Asp Val Leu Phe Ser Arg Ala
43 35 40 45
45 aag tac tca ggt gtg cca gtg cat cac agt cga tgg cgt caa gac gcc 192
46 Lys Tyr Ser Gly Val Pro Val His His Ser Arg Trp Arg Gln Asp Ala
47 50 55 60
49 ggt ata cac gtc atc gac agc cat cac atc gtc cga aga gat tct tat 240
50 Gly Ile His Val Ile Asp Ser His His Ile Val Arg Arg Asp Ser Tyr
51 65 70 75 80
53 gga cgt cgt gga aaa cgt gat gtc acg tca aca gat cgg cga cgt cga 288
54 Gly Arg Arg Gly Lys Arg Asp Val Thr Ser Thr Asp Arg Arg Arg Arg
55 85 90 95
57 ctc caa gga gtt gcc aga gac tgt gga cat gct tgt cac tta cga tta 336
58 Leu Gln Gly Val Ala Arg Asp Cys Gly His Ala Cys His Leu Arg Leu
59 100 105 110
61 cga tca gat gat gcc gtc tac atc gtt cat ttg cac aga tgg aat caa 384
62 Arg Ser Asp Asp Ala Val Tyr Ile Val His Leu His Arg Trp Asn Gln
63 115 120 125
65 ata ccg gac tca cat aac aaa agt gtt ccc cac ttt tcc aat tca aat 432
66 Ile Pro Asp Ser His Asn Lys Ser Val Pro His Phe Ser Asn Ser Asn
67 130 135 140

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69 ttc gcg ccg atg gtc tta tat ttg gac tcg gag gag gag gtt aga ggt 480
70 Phe Ala Pro Met Val Leu Tyr Leu Asp Ser Glu Glu Glu Val Arg Gly
71 145 150 155 160
73 gga atg tct cga aca gat ccc gat tgt atc tac cgt gca cac gtt aaa 528
74 Gly Met Ser Arg Thr Asp Pro Asp Cys Ile Tyr Arg Ala His Val Lys
75 165 170 175
77 ggt gta cat cag cac agc atc gtc aat tta tgc gac tcg gaa gac gga 576
78 Gly Val His Gln His Ser Ile Val Asn Leu Cys Asp Ser Glu Asp Gly
79 180 185 190
81 ttg tac gga atg ctt gca cta ccc agc gga atc cat acg gtt gag cca 624
82 Leu Tyr Gly Met Leu Ala Leu Pro Ser Gly Ile His Thr Val Glu Pro
83 195 200 205
85 att att agt gga aac gga aca gag cac gac gga gca agt cgc cat agg 672
86 Ile Ile Ser Gly Asn Gly Thr Glu His Asp Gly Ala Ser Arg His Arg
87 210 215 220
89 caa cat ctc gtc cga aag ttc gat cca atg cac ttc aaa tcg ttt gac 720
90 Gln His Leu Val Arg Lys Phe Asp Pro Met His Phe Lys Ser Phe Asp
91 225 230 235 240
93 cat ctt aac tcg acc agt gtc aac gag acg gag acg acg gtt gcc acg 768
94 His Leu Asn Ser Thr Ser Val Asn Glu Thr Glu Thr Thr Val Ala Thr
95 245 250 255
97 tgg caa gat cag tgg gaa gat gtt att gaa cgc aaa gca aga tcc cga 816
98 Trp Gln Asp Gln Trp Glu Asp Val Ile Glu Arg Lys Ala Arg Ser Arg
99 260 265 270
101 aga gct gcc aac tct tgg gat cac tat gtt gaa gtc ctt gtg gtg gcg 864
102 Arg Ala Ala Asn Ser Trp Asp His Tyr Val Glu Val Leu Val Val Ala
103 275 280 285
105 gat aca aaa atg tac gaa tat cac gga aga tct ctt gaa gac tac gtt 912
106 Asp Thr Lys Met Tyr Glu Tyr His Gly Arg Ser Leu Glu Asp Tyr Val
107 290 295 300
109 ctc act ctc ttc tcc aca gtt gcc tcc atc tat cgt cac caa tcc ctt 960
110 Leu Thr Leu Phe Ser Thr Val Ala Ser Ile Tyr Arg His Gln Ser Leu
111 305 310 315 320
113 cgt gca tct atc aat gtc gtt gtt gtc aag ttg atc gtt ttg aaa acg 1008
114 Arg Ala Ser Ile Asn Val Val Val Val Lys Leu Ile Val Leu Lys Thr
115 325 330 335
117 gaa aac gct gga cca cga atc act cag aac gct caa caa aca ctt caa 1056
118 Glu Asn Ala Gly Pro Arg Ile Thr Gln Asn Ala Gln Gln Thr Leu Gln
119 340 345 350
121 gat ttc tgt aga tgg cag cag tat tac aat gat cca gat gat tcg agt 1104
122 Asp Phe Cys Arg Trp Gln Gln Tyr Tyr Asn Asp Pro Asp Asp Ser Ser
123 355 360 365
125 gtc caa cat cat gac gtt gca atc ctt ttg acg cgt aaa gat att tgt 1152
126 Val Gln His His Asp Val Ala Ile Leu Leu Thr Arg Lys Asp Ile Cys
127 370 375 380
129 cga tca caa gga aaa tgc gat aca ctt gga ctt gct gaa ctt gga aca 1200
130 Arg Ser Gln Gly Lys Cys Asp Thr Leu Gly Leu Ala Glu Leu Gly Thr
131 385 390 395 400
133 atg tgt gat atg caa aaa agt tgt gca atc ata gaa gac aat gga ttg 1248

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| | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 134 | Met | Cys | Asp | Met | Gln | Lys | Ser | Cys | Ala | Ile | Ile | Glu | Asp | Asn | Gly | Leu | |
| 135 | | | | | 405 | | | | | 410 | | | | | 415 | | |
| 137 | agt | gct | gca | ttc | aca | att | gct | cat | gaa | ttg | ggt | cat | gtg | ttt | tcg | att | 1296 |
| 138 | Ser | Ala | Ala | Phe | Thr | Ile | Ala | His | Glu | Leu | Gly | His | Val | Phe | Ser | Ile | |
| 139 | | | | 420 | | | | | 425 | | | | | 430 | | | |
| 141 | cct | cat | gat | gac | gaa | cga | aaa | tgc | tct | acc | tac | atg | ccg | gtt | aat | aag | 1344 |
| 142 | Pro | His | Asp | Asp | Glu | Arg | Lys | Cys | Ser | Thr | Tyr | Met | Pro | Val | Asn | Lys | |
| 143 | | | | 435 | | | | | 440 | | | | | 445 | | | |
| 145 | aac | aac | ttc | cac | ata | atg | gca | cca | acg | ttg | gaa | tat | aac | act | cat | cca | 1392 |
| 146 | Asn | Asn | Phe | His | Ile | Met | Ala | Pro | Thr | Leu | Glu | Tyr | Asn | Thr | His | Pro | |
| 147 | | 450 | | | | | 455 | | | | | 460 | | | | | |
| 149 | tgg | agt | tgg | tcg | cca | tgt | tca | gct | gga | atg | ctc | gaa | cga | ttc | ctc | gaa | 1440 |
| 150 | Trp | Ser | Trp | Ser | Pro | Cys | Ser | Ala | Gly | Met | Leu | Glu | Arg | Phe | Leu | Glu | |
| 151 | 465 | | | | | 470 | | | | 475 | | | | | 480 | | |
| 153 | aat | aat | cga | ggt | caa | act | caa | tgt | cta | ttc | gat | cag | ccg | gtc | gaa | cgt | 1488 |
| 154 | Asn | Asn | Arg | Gly | Gln | Thr | Gln | Cys | Leu | Phe | Asp | Gln | Pro | Val | Glu | Arg | |
| 155 | | | | 485 | | | | | 490 | | | | | | 495 | | |
| 157 | cgt | tac | tac | gag | gat | gtc | ttt | gta | cgt | gat | gaa | cca | gga | aag | aaa | tac | 1536 |
| 158 | Arg | Tyr | Tyr | Glu | Asp | Val | Phe | Val | Arg | Asp | Glu | Pro | Gly | Lys | Lys | Tyr | |
| 159 | | | | 500 | | | | | 505 | | | | | 510 | | | |
| 161 | gat | gct | cat | caa | cag | tgc | aag | ttt | gta | ttt | gga | cca | gct | tct | gag | ttg | 1584 |
| 162 | Asp | Ala | His | Gln | Gln | Cys | Lys | Phe | Val | Phe | Gly | Pro | Ala | Ser | Glu | Leu | |
| 163 | | | | 515 | | | | 520 | | | | | 525 | | | | |
| 165 | tgc | cct | tat | atg | ccg | aca | tgc | cgc | cgt | ctt | tgg | tgt | gca | aca | ttc | tac | 1632 |
| 166 | Cys | Pro | Tyr | Met | Pro | Thr | Cys | Arg | Arg | Leu | Trp | Cys | Ala | Thr | Phe | Tyr | |
| 167 | | 530 | | | | | 535 | | | | 540 | | | | | | |
| 169 | gga | agc | cag | atg | ggc | tgt | cga | act | cag | cat | atg | cca | tgg | gcc | gac | gga | 1680 |
| 170 | Gly | Ser | Gln | Met | Gly | Cys | Arg | Thr | Gln | His | Met | Pro | Trp | Ala | Asp | Gly | |
| 171 | 545 | | | | | 550 | | | | 555 | | | | | 560 | | |
| 173 | act | cct | tgt | gac | gaa | tca | aga | agc | atg | ttc | tgt | cat | cat | gga | gcc | tgt | 1728 |
| 174 | Thr | Pro | Cys | Asp | Glu | Ser | Arg | Ser | Met | Phe | Cys | His | His | Gly | Ala | Cys | |
| 175 | | | | 565 | | | | | 570 | | | | | | 575 | | |
| 177 | gtt | cgt | cta | gcc | ccc | gaa | tcc | ctt | acc | aaa | att | gac | gga | caa | tgg | ggt | 1776 |
| 178 | Val | Arg | Leu | Ala | Pro | Glu | Ser | Leu | Thr | Lys | Ile | Asp | Gly | Gln | Trp | Gly | |
| 179 | | | | 580 | | | | | 585 | | | | | 590 | | | |
| 181 | gac | tgg | cga | tca | tgg | gga | gaa | tgc | agt | cgt | act | tgt | ggt | ggt | ggt | gtt | 1824 |
| 182 | Asp | Trp | Arg | Ser | Trp | Gly | Glu | Cys | Ser | Arg | Thr | Cys | Gly | Gly | Gly | Val | |
| 183 | | | | 595 | | | | 600 | | | | | 605 | | | | |
| 185 | caa | aaa | gga | tta | aga | gat | tgt | gac | agc | cca | aaa | cct | cga | aat | ggt | gga | 1872 |
| 186 | Gln | Lys | Gly | Leu | Arg | Asp | Cys | Asp | Ser | Pro | Lys | Pro | Arg | Asn | Gly | Gly | |
| 187 | | 610 | | | | | 615 | | | | 620 | | | | | | |
| 189 | aag | tac | tgt | gtt | ggt | caa | cga | gaa | cgt | tat | cgg | tca | tgt | aat | aca | caa | 1920 |
| 190 | Lys | Tyr | Cys | Val | Gly | Gln | Arg | Glu | Arg | Tyr | Arg | Ser | Cys | Asn | Thr | Gln | |
| 191 | 625 | | | | | 630 | | | | 635 | | | | | 640 | | |
| 193 | gaa | tgc | cca | tgg | gat | act | caa | cca | tac | cgt | gaa | gtt | caa | tgt | tct | gaa | 1968 |
| 194 | Glu | Cys | Pro | Trp | Asp | Thr | Gln | Pro | Tyr | Arg | Glu | Val | Gln | Cys | Ser | Glu | |
| 195 | | | | 645 | | | | | 650 | | | | | 655 | | | |
| 197 | ttc | aac | aat | aaa | gat | att | gga | atc | caa | ggt | gtc | gct | tca | acg | aat | act | 2016 |
| 198 | Phe | Asn | Asn | Lys | Asp | Ile | Gly | Ile | Gln | Gly | Val | Ala | Ser | Thr | Asn | Thr | |

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| 199 | | 660 | | 665 | | 670 | | |
| 201 | cac tgg gtt cca aaa tat gcg aat gtt gca cca aat gaa cgt tgc aag | 2064 | | | | | | |
| 202 | His Trp Val Pro Lys Tyr Ala Asn Val Ala Pro Asn Glu Arg Cys Lys | | | | | | | |
| 203 | | 675 | | 680 | | 685 | | |
| 205 | ctg tat tgt cgg ctc agt gga tct gca gcg ttc tat ctg ctt cga gat | 2112 | | | | | | |
| 206 | Leu Tyr Cys Arg Leu Ser Gly Ser Ala Ala Phe Tyr Leu Leu Arg Asp | | | | | | | |
| 207 | | 690 | | 695 | | 700 | | |
| 209 | aaa gtt gtt gat gga aca cca tgt gat aga aat gga gac gat att tgt | 2160 | | | | | | |
| 210 | Lys Val Val Asp Gly Thr Pro Cys Asp Arg Asn Gly Asp Asp Ile Cys | | | | | | | |
| 211 | 705 | | 710 | | 715 | | 720 | |
| 213 | gta gct gga gct tgt atg cca gca ggc tgt gat cat caa ctt cat tca | 2208 | | | | | | |
| 214 | Val Ala Gly Ala Cys Met Pro Ala Gly Cys Asp His Gln Leu His Ser | | | | | | | |
| 215 | | 725 | | 730 | | 735 | | |
| 217 | act ctc cga aga gac aaa tgt ggt gtt tgc ggt ggg gat gat tct tcc | 2256 | | | | | | |
| 218 | Thr Leu Arg Arg Asp Lys Cys Gly Val Cys Gly Gly Asp Asp Ser Ser | | | | | | | |
| 219 | | 740 | | 745 | | 750 | | |
| 221 | tgt aag gtt gtc aaa gga aca ttt aat gag caa gga acc ttt ggt tat | 2304 | | | | | | |
| 222 | Cys Lys Val Val Lys Gly Thr Phe Asn Glu Gln Gly Thr Phe Gly Tyr | | | | | | | |
| 223 | | 755 | | 760 | | 765 | | |
| 225 | aac gaa gta atg aag att cca gct ggt tct gca aat att gat atc cgg | 2352 | | | | | | |
| 226 | Asn Glu Val Met Lys Ile Pro Ala Gly Ser Ala Asn Ile Asp Ile Arg | | | | | | | |
| 227 | | 770 | | 775 | | 780 | | |
| 229 | cag aaa gga tat aat aat atg aaa gaa gat gac aat tat ctt tct ctc | 2400 | | | | | | |
| 230 | Gln Lys Gly Tyr Asn Asn Met Lys Glu Asp Asp Asn Tyr Leu Ser Leu | | | | | | | |
| 231 | 785 | | 790 | | 795 | | 800 | |
| 233 | cgt gcc gcc aat ggt gaa ttc cta ctt aac ggt cat ttc caa gta tca | 2448 | | | | | | |
| 234 | Arg Ala Ala Asn Gly Glu Phe Leu Leu Asn Gly His Phe Gln Val Ser | | | | | | | |
| 235 | | 805 | | 810 | | 815 | | |
| 237 | ctg gct cgc caa caa att gca ttc caa gac act gtt ctc gaa tat tct | 2496 | | | | | | |
| 238 | Leu Ala Arg Gln Gln Ile Ala Phe Gln Asp Thr Val Leu Glu Tyr Ser | | | | | | | |
| 239 | | 820 | | 825 | | 830 | | |
| 241 | ggt tct gat gca att att gaa cgg ata aat gga act ggt ccg att aga | 2544 | | | | | | |
| 242 | Gly Ser Asp Ala Ile Ile Glu Arg Ile Asn Gly Thr Gly Pro Ile Arg | | | | | | | |
| 243 | | 835 | | 840 | | 845 | | |
| 245 | agt gac att tat gtt cat gtt ctt tct gtt ggt agt cat cca ccc gac | 2592 | | | | | | |
| 246 | Ser Asp Ile Tyr Val His Val Leu Ser Val Gly Ser His Pro Pro Asp | | | | | | | |
| 247 | | 850 | | 855 | | 860 | | |
| 249 | atc tca tat gag tac atg act gcg gct gtt cca aat gct gta att cgg | 2640 | | | | | | |
| 250 | Ile Ser Tyr Glu Tyr Met Thr Ala Ala Val Pro Asn Ala Val Ile Arg | | | | | | | |
| 251 | 865 | | 870 | | 875 | | 880 | |
| 253 | cca ata tcc agt gca ttg tat ttg tgg aga gtt acg gat act tgg aca | 2688 | | | | | | |
| 254 | Pro Ile Ser Ser Ala Leu Tyr Leu Trp Arg Val Thr Asp Thr Trp Thr | | | | | | | |
| 255 | | 885 | | 890 | | 895 | | |
| 257 | gaa tgt gat aga gcc tgt cgt gga cag caa tcg caa aaa tta atg tgt | 2736 | | | | | | |
| 258 | Glu Cys Asp Arg Ala Cys Arg Gly Gln Gln Ser Gln Lys Leu Met Cys | | | | | | | |
| 259 | | 900 | | 905 | | 910 | | |
| 261 | ctg gac atg tcg act cat cgt caa agt cat gat aga aat tgt caa aat | 2784 | | | | | | |
| 262 | Leu Asp Met Ser Thr His Arg Gln Ser His Asp Arg Asn Cys Gln Asn | | | | | | | |
| 263 | | 915 | | 920 | | 925 | | |

VERIFICATION SUMMARY

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Input Set : A:\Uw953861.app

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L:1061 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:1064 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:1067 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:1070 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3



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| 1 | CTFR | 9 |

Total number of pages: 9

Remarks:

Order of re-scan issued on